

Keeping Fun Safe: What to do During Weather Emergencies at Ceraland Park

An Honors Thesis (HONR 499)

by

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Abstract

This honors creative thesis involves the revision and updates made to the original severe weather plan at Ceraland Park, in Columbus, Indiana. The goal of this project was to increase weather preparedness and provide patrons and staff with organized procedures when thunderstorms (severe and nonsevere) are impacting the park. Pamphlets were created for staff and patrons, in addition to a weather plan encompassing all facilities of the park for multiple weather conditions. Pamphlets will be distributed around the park, and placed in campground rental packets. Staff will receive the updated weather plan in the employee handbook. Weather safety information was also included within the documents, so patrons and staff could use the information as a guide at all times. Equipment, including lightning detectors and weather radios, will be purchased and programmed to suit the park's needs and ensure timely dissemination of accurate weather information to staff and patrons.

Acknowledgements

I would like to thank Dr. David Call for advising and guiding me through this process. I would also like to thank Beth Dawson, who acted as my liaison and provided me with crucial information about Ceraland Park, and Jim Kreutzjans, general manager of Ceraland. Thank you to my family and co-workers for encouraging me as I completed my work.

Introduction

Preparedness is a crucial factor in preventing loss of life or injury during severe weather. Sadly, through my own experiences as a lifeguard and pool manager at an outdoor park, I discovered a staggering number of people who are not aware of the dangers of types of severe weather, nor do they know how to act in cases of severe and non-severe weather. This is especially true if these individuals are in a new environment or an unfamiliar location. Additionally, general overall improvements in weather prediction and warning dissemination have caused some severe weather plans to become inadequate. In this author's statement, I will provide additional context about the revisions I did to the severe weather plan at Ceraland Park. My supporting documents include the original plan, the pamphlets I created for both staff and patrons, as well as the revised severe weather plan itself.

Ceraland Background

Ceraland Park was established in 1963 as a corporate recreational facility for employees of Cummins Inc. in Columbus, Indiana. Ceraland consists of 345 acres, with indoor and outdoor recreational facilities (including a pool, baseball/softball diamonds, recreation facility, mini golf, and over 300 campsites). After being a part of Cummins for more than 50 years, Ceraland Park became a public entity in 2014, with no funding through the Cummins company. Currently, Ceraland has nine full time employees and 75 to 100 seasonal employees from May to September.

Ceraland currently does not have a baseline for the number of patrons who use the park each year. This is due to an update to a new software system that will keep track of patron information, facility usage, campground reservations, and many other types of data about the

park. However, it is still obvious to staff that overall customer visits have increased drastically over the past few years, especially since the park has become a public entity in 2014. In 2015 alone, Ceraland Park hosted 22 different tournaments (mainly baseball and softball), with approximately 1,000 people (or more) per tournament. Fourth of July was once again the busiest day of the season, with an estimated 10,000 patrons in the park (accounting for a full campground, full tournament attendance, full shelter rentals, and foot traffic with the various Fourth of July activities).

Rationale

I was an employee of Ceraland Park since the summer of 2011. I started there as a lifeguard, and worked up the chain of command at the aquatic center. By the summer of 2015, I had been promoted to one of the aquatic manager positions. Prior to the summer of 2011, I had enjoyed the park as a patron, and enjoyed the time I spent there at the different facilities.

At the aquatic center, it is crucial that our facility takes the severe weather plan extremely seriously, especially if thunder or lightning are reported in the area. Our location within the park is very close to the twelve acre lake and is surrounded by trees. Both of these factors increase the chance for lightning strikes, as does the amount of metal around the pool facility. Metal and water are both good conductors of electricity. Typically during the summer, the aquatic center is one of the busiest facilities of the entire park. One of the guidelines for the aquatic center is the "thirty minute rule". If any of the pool staff hears thunder, we clear the pool (all patrons and staff must exit the water) for thirty minutes, and aquatic management starts the time over with each new clap of thunder heard. If lightning is seen, staff gets everyone out of the pools and off the pool deck, following the same thirty minute guideline for each lightning

strike/flash seen. Our facility and the boat dock deal with this guideline the most of any of the park's facilities (the boat dock must bring all boats in to shore if we clear the water).

In my time working there, I found it amazing and troubling how many people got angry with me or the other members of the aquatic staff as we took this rule very seriously and explained to our reasoning to the patrons. Additionally, many of the staff did not know (or were not sure) what to do if we had an actual thunderstorm in the park. I wanted to create a plan for each facility that clarified what to do in each of these cases (lightning/thunder/non-severe thunderstorm, severe thunderstorm, and tornado), because of the frequency in which we deal with summertime thunderstorms. I also wanted to revise the existing severe weather plan. I remember the first time I saw the original plan in the employee handbook, and read the steps each facility was to follow. I remember thinking to myself that there was a better way to do this, and to organize the plan. As the park underwent changes (mainly with the split from Cummins Inc.), it became clear to me that the plan itself was extremely out of date. This concerned me, because weather is so unpredictable, especially in southern Indiana during the summer. I continued my education and learned more about the countless hazards of weather, how people tend to take them less than seriously, and how unprepared the general public is regarding weather hazards. Every year I heard on the news about people being injured or killed at campgrounds that were hit by severe weather. I decided then, with all of those factors, that I did not want Ceraland to become one of those places, and that I could make the changes necessary to keep the patrons and staff of Ceraland safe.

Another reason I decided to pursue this endeavor goes back to why I wanted to go into meteorology in the first place. I remember seeing the impacts of Hurricane Katrina, and all I wanted to do was to help those affected. I wanted to learn as much as I could about the weather, why the people did not get out, and what could have been done differently to prevent

such a great loss of life and such massive destruction. By editing this plan and creating educational brochures for both the staff and patrons, I hope to keep everyone safe while educating them on the dangers of weather. I wanted to ensure ease of access of these materials as well, to make sure everyone knows about them.

In all my years at Ceraland, we never had to enact the severe weather plan (to my knowledge). Ceraland has been very lucky with storms going around us, or as the staff calls it, "the Ceraland Bubble Effect." However, it is only a matter of time before one hits the park, and I want to make sure everyone knows what to do, and how to act quickly and calmly. This past summer, we had a storm on July 13 with a severe thunderstorm warning for Bartholomew County, including the park. One of the other managers was on duty. It was a slow day, as we had experienced storms earlier in the morning. This allowed for the other pool manager to quickly get all the employees and those few patrons to the safety of the recreation center. Management (both park and aquatic) knew of the threats from the day from communicating with me, as well as utilizing online resources such as the Storm Prediction Center. Since the storms were expected and were monitored, the manager on duty was able to catch the warnings in advance on the weather radio and evacuate aquatic staff and patrons to shelter in a timely manner.

Methodology

For the revision of the severe weather plan, I first analyzed and revised (on paper) the existing plans in the current Ceraland employee handbook. I analyzed each aspect of the original plan, taking into consideration how the park has changed over the years, how technology has changed, and how the understanding of weather and weather hazards has changed. I made notes, additions, and subtractions to each section of the original plan with

updated information and suggested changes. As I revised the severe weather plan, I condensed some of the information into quick guide pamphlets for both patrons and staff. I included an abbreviated version of the actual updated plan in the patron pamphlets, so patrons will always have quick access to the safety information. I also researched weather facts that are commonly overlooked by or not generally known by the public to make staff and patrons aware of the risks. I created a packet with information found in the brochures, as well as crucial information and procedures for each facility for every staff member to know. By dispelling some of the biggest weather myths, I hope to keep people safe and give them weather knowledge that they can keep with them at all times.

I met multiple times throughout the revision process with Beth Dawson, who, at the time, was the assistant executive director of the park. We discussed the changes to the plan, as well as changes to the pamphlets. Beth and I both made revisions and changes, to enhance the understanding of the content and increase the ease of access to the information. I met with Beth and talked to Jim Kreutzjans, the general manager of Ceraland, and was able to obtain some basic facts and figures about the park. While working at the park, I took photos of some of the numerous facilities of the park that I am less familiar with, to help me create a mental image of the shelters for the staff and patrons. I met with my advisor, Dr. David Call, to ensure that I had included pertinent safety information. I repurposed maps I had already created to use for references in the pamphlets. After talking with Beth, I was able to pick out some weather equipment for the park to update/replace the existing equipment, and to add to the safety of the park. Purchased were: weather radios, stationary lightning detectors, and portable lightning detectors. I will program these once they have been purchased.

I took photos around the park to help my own reference while I was creating the plan. I also visited the different facilities to enhance the visuals and ideas I had while beginning my

revisions. Taking the photos and visiting the facilities allowed me to ensure that the wording of the new plan would make sense to the employees, and be accurate in the event of a severe weather situation.

For the online resources for staff and patrons, I selected sites that are familiar to me at a meteorology major, but are also available to the public and easy to use. The National Weather Service (Indianapolis office) provides forecasts and issues warnings for Bartholomew and surrounding counties. (Ceraland is located in Bartholomew County.) The NWS also provides other reference information, such as preparedness and climate information. The Storm Prediction Center issues severe weather outlooks and issues watches (e.g. a tornado watch) to the NWS to broadcast, and is a branch of the NWS. NOAA (National Oceanic and Atmospheric Administration) has information regarding lightning safety and tips for other weather hazards. I chose this site in part that the NWS is a branch of NOAA. The National Lightning Safety Institute is known for their lightning safety information.

Conclusion

The goal of my thesis is to improve staff and patron weather safety awareness, while helping Ceraland Park remain a safe and fun family environment. After spending five years working there and getting to know staff and patrons, I was shocked by the lack of awareness and basic weather safety knowledge. Being prepared is one of the most important aspects of weather safety. Storms are common in southern Indiana, and I did not wish for Ceraland to be unprepared. Ceraland Park and its staff allowed me to grow as a person through my time there, both working at the pool and on this project. I am grateful for the opportunity to complete this project, implement it, and give back to the place and people that have helped influence my future endeavors.

Supplemental Materials

1. Severe Weather Plan
2. Reference Flier for Staff
3. Reference Flier for Patrons

General Safety Tips for Weather Hazards

Thunder/Lightning: Move indoors. If you can hear thunder, you are close enough to be struck by lightning. Avoid metal, water, and electrical equipment. If caught outdoors with lightning nearby, you should stay away from tall objects, and crouch low on the balls of your feet with your hands on your head. NEVER shelter under trees!

Flash flooding: Move to higher ground. Don't drive or walk into flooded areas.

Extreme heat: Stay hydrated. Remain indoors or in shaded areas if possible.

Tornado: Move into an interior room on the lowest level of a sturdy building, or move underground. Avoid cars, mobile homes, RVs, and campers. If trapped outdoors, lie flat in a ditch, and cover your head. Do not try to outrun the tornado in your car.

Acceptable Safe Indoor Locations

NWS defines safe indoor locations as a "building with electricity and/or plumbing or a metal topped vehicle with windows closed." Buildings without electricity and/or plumbing, shelter houses, and dugouts are not safe shelters. At CERA, safe locations include: Sports and Fitness Center, bath houses near campground, Park Office, Aquatic Center locker rooms and pump room, bathrooms at the ball diamonds, and the maintenance shop.

CERA Facility Action for Thunder and Lightning (Non-severe weather)

Amphitheater

Patrons and staff should move to the interior of the amphitheater.

Aquatic Center

Thunder: Water will be cleared for 30 minutes. Time resets after each clap of thunder or visible lightning strike. Patrons should move indoors. Staff should remain calm and keep patrons out of and away from the water. If storms are imminent, management should shut off the slide and play features.

Lightning: Clear facility; patrons cannot shelter within fenced area of the pool deck. Patrons should move indoors. Staff should shelter in bathrooms with patrons, first aid office, or guard room.

Ball Diamonds

Once thunder is heard or lightning seen, all play should be immediately suspended. Players, coaches, and spectators should head indoors (or to their cars). Play should be suspended until 30 minutes after the last lightning strike or thunder clap. Players, coaches, and spectators cannot shelter within the dugout areas. Staff should move indoors until weather has cleared and 30 minutes has passed. Cars, in non-severe weather, are considered acceptable shelter.

Boat Dock

Bring in all boats to dock as quickly as possible. Patrons and staff should move indoors.

Campground

If you prefer, head to the Sports and Fitness Center. Otherwise, stay inside your camper. Campground host should monitor the weather at all times, give patrons a warning if severe weather is possible for the day, and remind them the Sports and Fitness Center is available for use.

Mini Golf/Driving Ranges

Return clubs and/or balls. Patrons and staff should move indoors.

Go Kart Track

Remove cars from track. Head indoors.

Maintenance/Security

Maintenance and security employees should move indoors. If traveling across the park, all staff should make sure patrons know about the impending weather, and remind patrons to head indoors.

Outdoor Facilities

NOTE: Outdoor facilities include all outdoor sporting facilities unless mentioned elsewhere.
If applicable, return supplies to Fitness Center. Postpone all activities, games, etc. for 30 minutes after the last lightning strike or thunder clap. Head indoors.

Shooting Ranges

Stop shooting. Pack up equipment. Move indoors.

Shelter Houses

Head indoors (or to vehicles). Shelter houses are not acceptable shelters in a thunderstorm.

CERA Park-wide Action for Watches

Watch: Conditions are favorable for severe weather. Know your severe weather plan, and be prepared to take action if necessary. Watches are typically issued hours in advance, providing ample time to prepare and react.

If a watch of any kind has been issued for Bartholomew or surrounding counties, weather radios at these facilities will broadcast the information:

Aquatic Center, Boat Docks, Front Gate, Campground Host, Sports and Fitness Center, Park Office, Diamond Concessions, Mini Golf, and Maintenance.

Staff should listen to the message in its entirety, and take notes if needed so the correct information is passed on to the patrons and the correct precautionary actions are taken. Once the watch has been broadcast, staff should remain calm and make preparations before severe weather develops. If managers are the first to receive the alert, such as at the Aquatic Center, management should let the other staff members know to be on alert. Remember, when a watch is issued, it is not uncommon for severe weather to develop quickly.

CERA Park-wide Action for Warnings

Warning: Event in progress. Enact severe weather plan.

If a warning of any kind has been issued for Bartholomew or surrounding counties, weather radios at these facilities will broadcast the information:

Aquatic Center, Boat Docks, Front Gate, Campground Host, Sports and Fitness Center, Park Office, Diamond Concessions, Mini Golf, and Maintenance.

Staff should listen to the message in its entirety, and take notes if needed so the correct information is passed on to the patrons and the correct actions are taken. Once the warning has been broadcast, staff should remain calm and immediately put the severe weather plan into action for each facility. ONLY broadcast the warning across the park and place the severe weather plan into action if the warning includes: Southeastern Bartholomew, Northwestern

Jennings, and/or Northeastern Jackson, OR the storm is moving toward the park. This is crucial, because we do not want patrons to panic unnecessarily, or to become complacent due to enacting the severe weather plan when it is not warranted.

The General Manager, Manager on Duty, or Park Supervisor should then go over the park-wide system and make the following announcement:

“This is a weather emergency announcement. A tornado (severe thunderstorm) warning has been issued for (insert counties). (Include details about storm motion and location, hazards, and any reported damage. This information should be taken directly from the warning announcement by the NWS.) Take appropriate action now, and please calmly follow the instruction of CERA staff. This tornado (severe thunderstorm) warning remains in effect until (time) am/pm (time zone). CERA employees will issue an all clear when given by the National Weather Service.”

Repeat announcement.

CERA Facility Action for Imminent Severe Weather

In this case, imminent severe weather refers to a tornado warning associated with a storm on a path to impact Ceraland, or a severe thunderstorm warning for the area in addition to a tornado watch. If conditions are favorable for tornadoes, severe thunderstorms can quickly develop tornadoes, even if the National Weather Service has not issued a tornado warning. It is crucial to treat **all** warnings seriously, act quickly, and to remember that radar imagery does lag slightly from reality. Generally, the first and safest option is to evacuate all staff and patrons to the Sports and Fitness Center, and this should always be done in the case of a severe thunderstorm warning. Listed below are the procedures for each facility in the case time does not allow for evacuation. If action must be taken and patrons and staff must shelter in place, everyone should avoid doors, windows and glass. Instruct patrons to kneel down, place their hands/arms on the backs of their necks, and protect their heads.

Amphitheater

Patrons and staff should move to the interior of the amphitheater.

Aquatic Center

The below ground pump room should be unlocked and used for patrons and staff. Patrons and

staff should move into the bathrooms/locker rooms for overflow. Outdoor bathroom interior walls could also be utilized.

Ball Diamonds

Staff and patrons should shelter in the bathrooms closest to the diamonds.

Boat Dock

If time to evacuate, patrons and staff should shelter at the aquatic center. Otherwise, lie in the ditch behind the building (avoiding trees) or move to the interior of the building.

Campground

Patrons should exit their campers and move into the three bath houses located near the campground.

Front Gate

Staff should evacuate to the Sports and Fitness Center.

Mini Golf/Driving Ranges

Patrons and staff should move to the Sports and Fitness Center as quickly as possible. The mini golf building is not an ample shelter in the event of severe weather.

Maintenance/Security

Go to the closest indoor shelter area. If staff is at the maintenance shop, shelter in the offices or bathroom (most interior locations of the building).

Outdoor Facilities

NOTE: Outdoor facilities include all outdoor sporting facilities unless mentioned elsewhere.

Staff and patrons should go to the closest indoor sheltering area.

Park Office

If time allows, staff and patrons should move immediately to the main pool pump room. If there is not time to evacuate the building, move into the restrooms of the stone house.

Shelter houses

Move to the closest indoor area.

In all cases, staff should use their best judgment to ensure staff and patron safety. Remain knelt down with your hands covering your head in your safe place until the all clear is given by CERA Management (via the NWS/weather radio). Once the all clear is given, do not leave your location. There could be severe storm damage across the park, and patrons/staff may be injured. Staff, especially those with first aid and CPR training, may

be dispatched across the park to begin treatment of victims until EMS or first responders can arrive.